and spending more amount should be encouraged.

SHR1 JANARDHAN POOJARI: That is what I stated. Enouragement will be there and we are seeing their track record also. The public sector is also entitled to> this.

SHRI M. KADHARSHA; Mr. Chairman, Sir, if we want to attain technological superiority, no doubt, we have to concen- • trate on research and development which is a vital factor but the Government has awakened only after a, long slumber to the reality and even now, the tehnologica] collaboration is meant only for soft drinks and instant coffee which does not come under priority sector. What will be the use of such research and development? Sir, it is not an easy job It involves huge cost and also a lot of'patience and dedication. So, I would like to know whether the Government will give any tax incentive to those who are involved in research and development work.

SHRI JANARDHAN POOJARI: Sir, in this field, the hon. Member has suggested that we have to give this tax incentive. We have given this tax incentive earlier also in the research and development areas but about giving this incentive here, we will examine that.

PROF. C. LAKSHMANNA: Mr. Cnairman, Sir, I would like to know from the Minister what portion of the fund which is made available through this fund is from Indian sources and what portion of the fund is from the U. S. sources. Is this amount which is spent by the various Companies in addition to What has been spent for R&D or to supplement R&D efforts?

SHRI JANRDHAN POOJARI; The entire Jund is created from the assistance given by the U. S. A. Government and 50 [r] per cent of the project will be funded by this fund subject to a maximum limit of 5 lakh U. S. Dollars.

*309. *[The questioner (Shri Krishna Kumar Birla) was absent. Fdr answer,* vide *col*..... infra.]

*310. *[The questioner (Shri Parvatha-neni Upendra) was absent. For answer,* vide *col.* 36-37 *infra"]*.

Incentives to the electronics industry

*311. SHRI KALPNATH RAI; Will the PRIME MINISTER be pleased to state:

(a) whether any incentives are being provided to the electronics industry so as to ensure its rapid development;

(b) if so, what are the details- thereof and whether these incentives have brought about the desired results;

(c) what is the quantity of electronics goods produced in the country during the last I'nree years, year-wise; and

(d) what is the quantity of electronics goods expected to be produced in the country during the current financial year?

THE MINISTER OF STATE IN THE DEPARTMENT OF DEFENCE PRO-DUCTION AND SUPPLIES IN THE MINISTRY OF DEFENCE (SHRI SHIV-RAJ PATIL); (a) to (d) A Statement is laid on the Table of Rajya Sabha..

Statement

(a) Yes, Sir.

(b) Details are given in Annexufe-I. *(See* below). The impact of these incentives on 'he electronics industry are given in Annexure-II. *(See* below).

(c) The production of Electronics during 1st three years has been the follow ing:

Year	Rs. Crores	Growth
1983-84 . .	1480	15. 0%
1984-85 . .	2080	40. 5%
1985-86 . . .	2880	38. 5%

(d) During current financial year the production of electronics in the country is expected to reach a tevel of Rs. 3635 crores.

Annexure-I

Policy measures in electronics

Government has taken a number of steps t$_0$ formulate promotional policy to accelerate t'ne growth of electronics in the country. The basic thrust $_0$f the policy is in the following direction: —

(1) A general liberalisation of licensing policy, with more emphasis on promotion rather than on regulation.

(2) Where controls are unavoidable, as a general rule, resort will be taken to fiscal controls, in preference to physical controls.

(3) By and large, there will be no upper limit on capacity and no restriction of sectoral nature like large- scale, small "scale, private sector,, public sector etc. except where specific reservations are made on very special considerations. -

(4) Volume production at the eco nomic level, with contemporary techno logy would be the guiding principle.

The following specific measures need to be 'highlighted: -

(i) For certain category of items "broad-band" licences will be issued.

(ii) The electronic components; n- dustry has bee. n delicensed.

(iii) Import of technology and fore-. ign collaboration will be permitted in all areas of electronics where indigenous technology is not available. Unit$_s$ having foreign equlity 'ess than 40 per cent will' be permitted in all areas.

(iv) Development of small scale industry will be encouraged. Approval for a number of items have been decentralised to the level of State DIs. Investment limit for this sector has been revised to Rs. 35. 0 lakhs and that for ancillary units to Rs. 45. 0 lakhs.

(v) For the sake of economies of scale, some of the components \vhich are reserved for small scale sector have been dereserved.

(vi) Electronic units wil be allowed to establish in ' any permissible location.

(vii) In the area of teleccommuni- jj cations, manufacture -of telephones, EPABX, teleprinters, fascimile equipment <lata communication terminals etc. have been allowed in the private sector. Other items. can also be taken up by private sector with Central State Government participation of at least 51 per cent of the equity $_s$hafe.

* (viii) In almost all areas of electronics, excluding consumer electronics, MRTp companies have been exempted from clearence under Section 21 and 22 of MRTP Act.

(ix) A computer policy has been announced with emphasis on the manufacture of computers based $_0$n latest' technology at prices compara. ble with international Jerel and. progressively increasing. mdigenisation.

(x) Import (juty on raw materials, components and capital equipment has been reduced and the duty jtruc-^{y} ture rationalised toenable minimum input cost to the industry in order to. assist increased production.

(xi) The Government is promoting appropriate applications of electronics to improve poducttvity, ' production quality, safety and qutlity $_0$f services.

(xii) To encourage development and export of software, a new policy package has been recently announced.

Annexure-Ii

Impact of new policy, measures on growth of electronics

Integrated Policy Measures on Electronics were announced on March 21, ' 1985 covering licensing, import of technology and fiscal aspects. Prior to this, on November 19, 1984 a New Computer Policy was announced. The industry both in the' public and- private sector has responded encouragingly to the -various measures taken by Government. The production

trends for last three years are noted below:

Year	Production (Rs. Crores)	Growth
1983-84	1480	15.0%
1984-85	2080	40.5%
1984-86	2880	38.5%

During 1986-87, the production is expected to grow to a level of about Rs. 3635 crores which will be 26, 2 per cent higher than the same for 1985-86. The highlighting feature of this growth has been a significant fall in prices of items like computers, some of the components etc. Amongst the higher growth sector has been the computer industry which is likely t° show a growth over 80 per cent in monetary terms and 140 per cent in physical terms. The production of television sets is likely to touch a 3 million mark consisting of 2. 15 million Black and White and 0. 85 million colour. In the area of communication, production of digital switching equipment and Multiaccess Rural Radio Communication equipment, have already started.

The production base for electronic industry is now very wide spread. There are_ over 2500 units spread over public sector (both Central and state), organised private sector and small scale sectors. The contribution, $_0$f public sector units in the overall production is about 32 per cent, that of small scale sector is a*bovt* 38 per cent and the remaining 30 per cent is contributed by units in organised private sector.

The total direct employment in the electronics units is presently estimated to be around 2 lakh numbers. The major employer units are in public sector which account for 40 per cent of total employment.

The investments; n various sectors are flowing steadily and a number of major projects in the area of communication, computers], components etc. are at advanced stages of implementation. In the communication sector, investments have been

- made for manufacturing IEPABX, RAX, Telephone instruments, electronic teleprinters, etc. in the computer industry, major investments 'have been made in production of microprocessor based systems, PCs, peripherals, ftoppy disks, supermini and mainframe computers. For a number of components like colour picture tube, Television glass shells, Colours Television tomponents, hybrid circuits, resistors, capacitors, ferrites etc. involving high investment, there has been an encouraging response from the entrepreneurs. It is an. ticipatej that' during 1986 an additional investment of Rs. 220 crores would be made in. the component sector alone and a further addition of about Rs. 400 cro-

. res js anticipated in 1987. On the whole, the electronics industry is developing towards a situation where economies of scales would be realised thus leading to fall in prices, improvement in quality and better availability of products.

श्री कल्पनाथ राय : आदरणीय सभापति महोदय, माननीय मंत्री महोदय ने अभी बताया है कि तीन वर्षों के दौरान इलैक्ट्रानिकी का उत्पादन 1983-84 में 15 प्रतिशत, 1984-85 में 40.05 प्रतिशत और 1985-86 में 38.5 प्रतिशत हुआ है। इन्होंने यह बताया है कि इतना इलैक्ट्रानिकी का ग्रोथ हुआ है। क्या यह ग्रोथ इम्पोर्ट आफ स्क्रयू ड्राइवर टेक्नोलोजी के कारण हुआ है। क्या यह भी सही है कि आप बहुत लोगों को लाइसेंस दे रहे हैं और लोग पैसा लगा कर विदेशों से टेक्नोलोजी यहां पर ला रहे हैं, यह मैं जानना चाहता हूं?

श्री शिवराज पाटिल : श्रीमन्, सरकार का उद्देश्य यह रहा है कि यह इंडस्ट्रीज बने और आगे बढ़े। इंडस्ट्रीज बनने के पश्चात् जो उसके लिये आर एंड डी (रिसर्च एंड डिवैलप) करना है वह भी करें और टेक्नोलोजी भी यहां पर डिवैलप करें। जो इंडस्ट्री यहां पर डिवैलप हुई है वह, यहां की टैक्नोलोजी पर ही डिवैलप हुई है और जो एडवांस एरियाज हैं उसमें थोड़ी सी टैक्नोलौजी हमको

बाहर से जरूर लाने की जरूरत है। मगर वह टैक्नोलोजी लाने के पश्चात् उसके ऊपर भी हमने बढ़ावा दिया है और एक नई टैक्नोलोजी यहां पर बनाने के लिये है हमारा उद्देश्य इंडस्ट्री को बढ़ावा देने के लिये लाइसेंसिंग पालिसी को लिबरलाइज करने का है। जिन्होंने लाइसेंस मांगा है उनको लाइसेंस दिया है और जितने लाइसेंस दिये है उतनी ही इंडस्ट्रीज यहां पर बनेंगी।

श्री कल्पनाथ राए : संभापति महोदय, मैं माननीय मंत्री जी से जानना चाहता हूं कि जो एडवांस टैक्नोलोजी है या जो भी इलैक्ट्रानिक्स की टैक्नोलोजी है उसमें आत्म-निर्भरता प्राप्त करने में हमें कितना समय लगेगा और रिसर्च एंड डिवैलपमेंट के क्षेत्र में सरकार क्या कर रही है ?

श्री शिवराज पाटिल : यह सवाल बहुत बड़ा सवाल है कि एडवांस टैक्नोलोजी में पूरी तरह निर्भरता प्राप्त करने में कितना समय लगेगा और यह एडवांस टेक्नोलोजी हमेशा के लिये एडवांस होती जाएगी और हमें उसका पीछा करते रहना पड़ेगा। कुछ एरियाज में हम उनसे भी आगे भागेंगे और लोग हमारे पीछे भागेंगे तथा कुछ एरियाज में अगर दूसरे लोग हैं तो उन लोगों के पीछे हमको जाना पड़ेगा। मगर हमारा यह लक्ष्य रहा है कि जहां तक हो सके टैक्नोलोजी अपने ही देश में बने और हम अपने ऊपर निर्भर रहें। हमने यहां पर देखा है कि कुछ क्षेत्रों में हमें 90 परसेंट निर्भरता प्राप्त हुई है और कुछ एरियाज ऐसे हैं जिसमें हमको ज्यादातर दूसरों के ऊपर निर्भर रहना पड़ा है।

SHRj JAGESH DESAI; Sir, I congra-tulate the Government for the excellent work done in the matter $_0$f electronics. Within three years, the production has gone up by 250 per cent. This new thrust given by the Government is welcome and the country is very much grateful to them for this new thrust to the policy. I would like to know regarding computerisation. The growth in one year; s up by 80 per cent in. monetary terms and 140 per cent in physical terms. I would like t° know the value of computers produced in the country in the year 1985-86. I would also like to know the number of pieces produced, i. e. production in physical terms. What is the number of sets produced in tlje country in the year 1985-86?

SHRI SHIVRAJ PATIL. The computers are manufactured in different industri- es. 1 have to collect the figure and give it to the h°n. Member. 1 shall certainly give it to him. This goes to show that we have produced a large number of computers. The value comes down when the demand is more' We are trying to produce. more.

SHRI VITHALBHAI MOTIRAMATEL: I would like to know from «hehon. Minister whether the Centre has anyj scheme to train our engineers and tech-j. nocrats in electronics industry or whetherit will be left only in the private sector?

SHRI SHIVRAJ PATIL; One Of the steps taken by the Government to en- courage the electronic industry is to train the scientists, ' engineers, technologists and technicians. They are trained in the universities, national larobatories. the units which are available in the industry and private industry also. We are taking care of this aspect and spending a lot, of money to see that the money needed is available.

SHRI N. K. P. SALVE; The growth rate shown.....

MR. CHAIRMAN; If you are not ready, you sit down I will call somebody else.

SHRI N. K. P. SALVE: I am ready, Sir. Normally my name is not called. That is why I was surprised when you called me.

MR. CHAIRMAN; Today; $_t$ is your t good fortune.

SHRi N. K. P. SALVE; I amgrateful to you. Sir. Now, the growth take is indeed very spectacular in the electronic industry and the overall growth rate also is better. But what 1 would like to know from he honourable Minister is this. He has given certain figures of production in terms of rupees and he said that the production was Rs. 1, 480 crores in 1983-84, Rs. 2, 080 crores in 1984-85, Rs. 2, 880 crores in 1985-86, and in 1986-87, it is expected to be Rs. 3, 635 crores. These are, by any standards, -very spectacular. But, Sir, may I know from t'ne honourable Minister how. much of this value represents the imported components? If a large portion of it represents the imported components and if the duty is paid, then the picture would be quite different from what one would get out of these figures.

SHRi SHIVRAJ PATIL; Sir, the policy adopted by t'ne Government to see that the electronic industry develops is to familiarise the people with the electronic gadgets themselves, first of all, so that they know, as to how these electronic gadgets are used. One $_0$f the scientists has said; "What the nervous system is *to* the body, electronics is to industry. So,, first of all, we are familiarising the people and then we start getting instruments from outside and give thenr-to the users. The third step is to get the components arid kit$_s$ and manufacture and assemble them here. The fourth step is to'sCe that the components are manufactured in the country and they are assembled into units and items which are made' available to them. The fifth step is to see that the material which is required 'for the development of the component; s$_s$ developed in the country. And, Sir, the sixth step is to see that the technologie, advanced technologies, are developed. Now, as for as the import of components is concerned, well, it is different in different weas. In black and whit$_e$ TV, ninety per cent of the components are made in the country and in colour TV, it is twenty per cent of the components. As far as computers! are concerned, the position; s a little different. As far as the other instruments are concerned, sophisticated instruments are concerned, which are. used in medical sciences, which are used in communication and other things, things are quite different. So, Sir, at the present stage, our approach is this; twenty-five per cent of it will be the import content.

SHRI N. K. P. SALVE; Sir, 1 was asking about the production in terms of items. But he is' giving the rationale for ^mport. Import component will be 25 per cent $_0$f the value?

SHRI SHIVRAJ PATIL; Sir I may add here that the biggest chunk is the consumer electronics, the black and white TV and other things and, as it is, 90 per cent of the consumer electronic, components are produced in the country and now it has been possible to reduce the import content and the information given to me is that it is only 24 per cent.

MR. CHAIRMAN: Yes, prof. Ramachandra Rao.

PROF. B. RAMACHANDRA RAO: Sir, it is heartening to note that the production of electronic goods has phenomenally increased. Even then I would like to know from the honourable Minister whether there are any big gaps in the production especially in areas like medical electronics, electronics for the navy and electronics for sophisticated instrumentation like the computer-numerically-control, led machines, etc. This growth must be compared with the growth of imports of sophisticated equipment and then only we will get a realistic picture. So, Sir, I would like to ask the following questions:

(a) What is the fraction of production of electronic goods in the country in relation to the total electronic goods production which includes imported components, not merely components of these, but full-scale instruments which are imported like medical equipment, navy euqipment, etc. ?

(b) In the case of electronic industry, quite a large number of incentives are given for, what you call, entertainment electronics. What are the incentives give for sophisticated instrumentation production in the country, especially like medical instrumentation, naval instrumentation, so on and so forth?Are there any special incentives for encouraging very sophisticated instrumentation?

SHRI SHIVRAJ PATIL; As far as the statistics are concerned, I will give a written reply'to hon. Members,. because it will *not* be possible for me to cover the entire area within the diameter available to me. Sir, the electronic industry(is developing in different areas. Consumer electronics is one thing. Professional ele-tronics is something else. Industrial electronics is somthing else. And then the electronics which is used for the atomic industry or space industry of defence industry or other industries are different. Now, when we look, to the development of electronic industry as such; we look to the development of the equipments and the $_s$ystem a_s such. But there is another approach which is adopted. The development of the system is one, the development of components it two, and and the third kind of development is of the technology as such. Now, as far as the equipments require^ by the Navy are concerned, sir, it is a very difficult question to answer. Now, if we want to use them in the Navy they should be sophis-ticatej instruments used by other countries also. If they are available in the country, we would be happy to use them. If they are not available in the countty, it would be' necessary for us to provide those equipments. from abroad. As far as the equipment used for the medical profession is concerned, it is advancing, and it has been possible f, for us' to manufacture and produce some of the equipments—small, simple equipments. But some $_0$f the sophisticated equipments we are importing from other countries and trying to develop them here.

श्री सत्यपाल मलिक : श्रीमन, मुझे लगता है कि जो इलैक्ट्रानिक उद्योग है इसका ज्यादा इस्तेमाल मौज मस्ती और मनोरंजन के लक्जरी आइटम जो हैं उनकी तरफ ज्यादा रुझान है । मैं माननीय मंत्री महोदय से जानना चाहता हूं कि क्या आपने इसकी जानकारी की है कि कृषि का जो क्षेत्र इतना विशाल है जिसका देश की अर्थ-व्यवस्था में जबरदस्त योगदान है, उसमें इलैक्ट्रानिक टेकनालाजी का कितना योगदान है और किन किन क्षेत्रों में उनका प्रयोग हो रहा है क्योंकि हम मोहन-जोदड़ों के जमाने की बैलगाड़ी आज भी जोत रहे हैं, डीजल का इंजिन फट जाता है, रद्दी किस्म के ट्रेक्टर हैं । तो इलेक्ट्रानिकी का इस्तेमाल आपने कृषि उद्योग में भी किया है इसकी जानकारी देंगे ।

श्री शिवराज पाटिल : श्रीमान, मैंने पहले ही कहा कि जैसे मस्तिष्क का उपयोग हमारे शरीर के लिए होता है, वही उपयोग इलेक्ट्रानिक का हमारी इंडस्ट्री में होता है। यह केवल मौज मस्ती या मनोरंजन का साधन नहीं है । टेलिविजन का उपयोग हमारी एजुकेशन में होता है, नई ऐजुकेशन पालिसी के तहत डिस्टेंट ऐजुकेशन के लिए भी हम कर रहे हैं । टी०वी० पर पिक्चर भी व ऐडवर्जिमेंट्स भी होते हैं, लेकिन यह नहीं भूलना चाहिए कि टी० वी० के ऊपर कृषि कार्यक्रम रोज दिए जाते हैं । कृषि के क्षेत्र में टी० वी० का प्रयोग होता है, ऐनीमल हजबेंडरी के लिए उसका प्रयोग बड़े पैमाने पर किया जाता है ! हमारा जो व्हेदर प्रिडिक्शन है उसको सेटलाइट के माध्यम से सारे देश के लोगों को, किसानों को बताते हैं । जैनेटिक इंजीनियरिंग डेवलपमेंट के लिए इलेक्ट्रानिकी का उपयोग होता है । ऐटामिक न्यूक्लियर टेकनालाजी का भी उपयोग एलेक्ट्रानिक के माध्यम से होता है । नये नये सीड्स , फल, मूंग, ज्वार के बीज भी बन रहे हैं । हमारे वाटर रिसोर्सेज का पूरी तरह से यूज करने के लिए इलेक्ट्रानिकी का प्रयोग हो रहा है जिससे हमको यह पता लग जाता है कि जिस जमीन में पानी का सोर्स 30 परसेंट है, इलेक्ट्रानिक के उपयोग से उस पानी को हम 70 परसेंट जमीन पर कंप्यूटर लगाकर उपयोग कर सकते हैं । इससे आप पता लगा सकते हैं कि इलेक्ट्रानिक्स न केवल मनोरंजन के लिए होता है बल्कि हर क्षेत्र में इसका उपयोग किया जाता है और कृषि के क्षेत्र में तो इसका बड़े पैमाने पर उपयोग होता है ।

MR. CHAIRMAN: Question Hour is over.